

Appln No.: 10/004,978  
Amendment Dated: January 12, 2005  
Reply to Office Action of January 27, 2004

Claims 1-21 are pending in this application. Independent claim 1 is directed to a non-flammable resin composition that comprises a polycarbonate, a phosphoric ester that meets certain structural limitations, and an alkoxy-group containing organopolysiloxane that meets certain structural limitations. Claim 1 further recites limitations on the amounts of the phosphoric ester and the organopolysiloxane that are present within the composition.

The Examiner has rejected claims 1; 2, 4-11, 16-19 and 21 under 35 USC § 103 as obvious over the combination of US Patent No. 6,184,312 (Yamamoto) and US Patent No. 5,658,974 (Fuhr). The Examiner contends that all of the elements of claim 1 are met by Yamamoto, except the specific type of phosphoric ester now claimed, and that the use of Fuhr's phosphoric ester would have been obvious. He has further stated that Applicant's argument concerning lack of predictability is without merit in the absence of experimental data. This response poses a challenge, because Applicant cannot simply test the proposed combination since that is the present invention. Applicant has, however, now been able to obtain some siloxane within the scope of the Fuhr disclosure, and presents herewith a declaration containing test results for this siloxane, and applicant's siloxane in combination with phosphoric ester flame retardants. These results clearly show that the flame retardance achieved using the invention is superior to that of Fuhr, which differs from the claimed invention in the nature of the siloxane. These results are provided in response to the Examiner's statement in the final action, and therefore are appropriately entered after final rejection.

To facilitate comparison of the invention and the cited art, Applicant has organized the various components into tabular form.

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Component	Claimed Invention (Claim 1)	Yamamoto	Fuhr
polycarbonate resin	not limited	not limited	not limited
phosphoric ester	specific structure in claims	none disclosed	overlaps with claimed structure but is not coextensive
organosiloxane	$R_a^1 Si(OR^2)_b O_{(4-a-b)/2}$ $0.2 \leq a \leq 2.7$ ; $0.2 \leq b \leq 2.4$ ; and $a + b < 3$ ,	overlaps with claimed siloxane but is not coextensive, no specific example within scope of Applicant's claims because of vinyl at R3	different siloxane

From this table it can be seen that Fuhr is the more appropriate primary reference from a purely compositional standpoint, and it is with this reference that the comparison is made in the enclosed declaration. Fuhr discloses both a phosphoric ester and a siloxane, two components related to the claimed invention, while Yamamoto discloses only one.

In the declaration, it is shown that otherwise comparable samples, differing only in the type of siloxane (silicone), have better flame ratings, and much shorter flame out times when the combination is in accordance with the invention, as opposed to using the siloxane of Fuhr. It should further be noted that the Examiner must compare appropriate samples when considering the data presented in Fuhr. For example, the data in the present case uses tests on 1.5 mm thick bars. Fuhr presents data on 2.1 mm bars and 1.6 mm bars. The thinner bars do not consistently produce V0 ratings, and have longer burn times. Moreover, the test results in Fuhr all use higher levels of phosphoric ester than in the declaration, indicating that the same phosphoric ester is more effective and can be used at lower levels in the compositions of the invention.

Finally, Applicants again reiterate that, as shown in the previously filed declaration, the compositions of the present invention also achieve the good fire retarding properties without significant decrease in impact strength. Nothing in the art cited by the Examiner would suggest that the combination of the invention would lead to this improved balancing of properties. Indeed, neither of the references provide any information concerning impact resistance of the

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materials made. Thus, this beneficial and unpredictable property provides a further reason why a person skilled in the art would not consider the present invention to obvious.

For the foregoing reasons, Applicants submit that claim 1 and all of the claims dependent thereon are in form for allowance. The additional references cited do not address this issue, and do not therefore render the dependent claims unpatentable when the independent claim is patentable. Favorable reconsideration and allowance of all claims are respectfully urged.

Respectfully submitted,



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Enclosures:  
Second Rule 132 Declaration  
Request for Extension of Time